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10/692,670	10/24/2003	Naveen Bali	5693P031	9973

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EXAMINER	
LAI, MICHAEL C	
ART UNIT	**PAPER NUMBER**
2457	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/692,670	BALI, NAVEEN	
	Examiner	Art Unit	
	MICHAEL C. LAI	2457	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *7/27/2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7 and 21-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,21-32* is/are rejected.

7)☒ Claim(s) *7* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is responsive to communication filed on 7/27/2009.

   Claims 1-7 and 21-32 have been examined.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/27/2009 has been entered.

Response to Amendment

3. The examiner has acknowledged the amended claims 1, 4-7, 21-23, 27-29, and 31. Claims 1-7 and 21-32 are pending. The 112 second paragraph rejection to claim 1 has been overcome and withdrawn accordingly.

Response to Arguments

4. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

   The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 21 and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 21 recites the limitation "in response to detecting a link failure between the second storage device and a third storage device" in lines 15-16. It is unclear which device detects the link failure.

Claim 27 is rejected for the same reason as for claim 21.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-6 and 21-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kumar Malavalli et al. ["Fibre Channel Generic Service-3 (FC-GS-3)", NCITS working draft proposed American National Standard for Information Technology, January 13, 2000, hereinafter Malavalli], in view of Betker [US 7,362,717, hereinafter Betker], and further in view of Bessire [US 7,055,056 B2, hereinafter Bessire].

Regarding claim 1, Malavalli discloses a method for building a failover-enabled communications link, comprising:

receiving, by a first Fibre Channel (FC) storage device, input of a plurality of upper-level addresses, based on an upper-level protocol, assigned to a FC

port of the first FC storage device, the first FC storage device supporting the FC protocol at a base layer, wherein the plurality of upper-level addresses includes a primary address and a backup address, wherein the backup address is associated with a second FC storage device [Introduction, page ix, FC fabric that support an upper-level protocol (ULP) supported by the first FC port ; Section 5.1.4.32, pages 65 and 66, RSPN_ID request shall be used to associated a symbolic port name with a given port identifier; Section 5.1.2, page 28, Table 13, primary key and secondary key];

registering, by the first FC storage device, a symbolic name for the FC port of the first FC storage device with a name server, wherein the symbolic name is encoded with the primary address, and encoded with the backup address associated with the second FC storage device [Section 5.1.2, page 28, Table 13, primary key and secondary key; Section 5.1.4.31, pages 64 and 65].

Malavalli does not specifically disclose linking, by the first FC storage device, the FC port of the first FC storage device over a fabric network to the third FC storage device using the symbolic name registered with the name server and encoded with the backup address associated with the second FC storage device. Betker discloses wherein each port in the pair of ports is located on first and third FC node devices, respectively [Figure 1, nodes; and col 5, lines 4-15], and configuring the first FC node device to create a link between the pair of ports

using the identity for the third FC node device, and configuring the third FC node device to create a link between the pair of ports using the identity for the first FC node device [i.e. establish link or path] [col 1, lines 28-33, and lines 39-44; and col 5, lines 15-20]. It would have been obvious to a person skill in the art at the time the invention was made to combine the teaching of Malavalli and Betker because the teaching of Betker on establishing link between nodes would enable devices to properly communicate with each other and prevent information lost.

Malavalli and Betker disclose the claimed invention except for the linking is in response to detecting, by the first FC storage device, a link failure between the second FC storage device and a third FC storage device. However, Bessire teaches assigning two IP addresses, one being its primary IP address and the other being a backup IP address to each controller [col. 6, lines 3-6]. Bessire further teaches when Controller 2 detects that Controller 1 has failed, Controller 2 assumes responsibility for Controller 1 by taking over IP address for Controller 1 [col. 6, lines 50-67]. It would have been obvious to a person with ordinary skill in the art at the time the invention was made to incorporate Bessire's teaching into Malavalli's and Betker's method for the purpose of allowing FC N_Ports to be clustered by assigning backup IP addresses and taking over responsibility of failed backup device after detecting the failure, thereby providing fail over/fail back capabilities among FC N_Ports.

Regarding claim 2, Malavalli further discloses wherein the upper-level protocol is a network protocol [Sections 10.6.2, 10.7, and Figure 15, pages 157-158, SNMP, UDP].

Regarding claim 3, Malavalli discloses the claimed invention except for wherein the network protocol is the Transmission Control Protocol over the Internet Protocol (TCP/IP), and the upper-level addresses are IP addresses. Bessire discloses the Transmission Control Protocol over the Internet Protocol (TCP/IP), and the IP addresses [col. 5, lines 13-34, TCP/IP; col. 5 line 61 through col.6 line 12, IP address82]. It would have been obvious to a person with ordinary skill in the art at the time the invention was made to incorporate Bessire's teaching into Malavalli's method in order to take advantage of the TCP/IP features [col. 4, lines 34-48].

Regarding claim 4, Malavalli further discloses wherein the symbolic name is encoded with the primary address and backup address based on a predefined encoding scheme [Section 5.1.2, page 28, Table 13, primary key and secondary key; Section 5.1.4.31, pages 64 and 65].

Regarding claim 5, Malavalli further discloses wherein the predefined encoding scheme includes using selected bytes in a symbolic name field defined in the FC protocol to store the primary address and backup address [Section 5.1.2, page 28, Table 13, primary key and secondary key; Section 5.1.4.31, pages 64 and 65].

Regarding claim 6, Malavalli further discloses wherein configuring each FC node device comprises configuring the FC node device to send a RFT_ID message to a name server for a FC fabric that enables communications between the FC node devices [Section 5.1.4.31, RFT_ID], and to send a RSPN_ID message to the name server [Section 5.1.4.32, RSPN_ID].

Claim 21 is of the same scope as claim 1. It is rejected for the same reason as for claim 1.

Regarding claim 22, Malavalli further discloses wherein the method further comprises registering performing a registration procedure to register the symbolic name, and each communications protocol supported by the first FC N_Port with the name server for a FC fabric to which the first FC N_Port is connected [Section 5.1.1.3, registration, pages 26-27].

Regarding claim 23, Malavalli further discloses wherein registering with the name server the symbolic name encoded with a primary IP address, and a backup IP address associated with a second FC N Port on a second storage device comprises a first registration operation to register the primary IP address, and a second registration operation to register the backup IP address [Section 5.1.1.3, registration, pages 26-27, primary and secondary key objects].

Regarding claim 24, Malavalli further teaches wherein the first registration operation and the second registration operation are the same registration operation [Section 5.1.1.3, registration, pages 26-27, primary and secondary key objects].

Regarding claim 25, Bessire further teaches wherein the method further comprises detecting a failure of a primary link between a pair of remote N_Ports, wherein one of the remote N_Ports has the backup IP address as a primary IP address [col. 5 line 61 through col. 6 line 12]. See motivation in claim 1.

Regarding claim 26, Malavalli teaches substantially all the limitation in claim 25, but fail to disclose specifically about wherein the second registration operation is performed after detecting the failure. However, Bessire teaches assigning two IP addresses, one being its primary IP address and the other being a second IP address to each controller [col. 6, lines 3-6]. It would have been obvious to a person with ordinary skill in the art at the time the invention was made to incorporate Bessire's teaching into Malavalli's device for the purpose of allowing N_Ports to be clustered by assigning backup IP addresses after detecting the failure, thereby providing fail over/fail back capabilities among N_Ports.

Claim 27 is of the same scope as claim 21. It is rejected for the same reason as for claim 21.

Regarding claim 28, Malavalli further discloses wherein the method further comprises registering communications protocols supported by the first FC N_Port with the name server for a FC fabric to which the first FC N_Port is connected [Section 5.1.1.3, registration, pages 26-27].

Claim 29 is of the same scope as claim 23. It is rejected for the same reason as for claim 23.

Claim 30 is of the same scope as claim 24. It is rejected for the same reason as for claim 24.

Claim 31 is of the same scope as claim 25. It is rejected for the same reason as for claim 25.

Claim 32 is of the same scope as claim 26. It is rejected for the same reason as for claim 26.

Allowable Subject Matter

9. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Examiner's Note: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the

structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL C. LAI whose telephone number is (571)270-3236. The examiner can normally be reached on M-F 8:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571) 272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael C. Lai
16SEP2009

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Primary Examiner, Art Unit 2457